

Winter, 1935

C O P Y

(Bishopp Document 4365)

C O P Y

A REPORT OF THE SCREWORM INFESTATION IN WESTERN
ILLINOIS DURING THE SUMMER AND FALL OF 1935.

Possible Methods of Introduction:

There are four possible origins of the recent infestation in Pike County and adjoining counties:

1.--The presence of the flies (Cochliomyia americana) and related species during the late summer and fall of 1934 is indicated by reports of two veterinarians in this area. Dr. M. S. Nighbert, Pittsfield, Ill., reported having treated two cases of screwworms on September 8, 1934 in a horse suffering from fistula. The doctor said that the worms taken from this wound had formed round holes or pockets from feeding in healthy tissue of the animal beneath its skin. He has found maggots of blowflies in such wounds before, but these had fed on discharges from the fistula rather than in healthy tissue. This fact made Dr. Nighbert think that possibly the worms he found in the wound last year were screwworms (C. americana). He had no other cases of myiasis in livestock in 1934 and no cases in them preceding years of his practice, except occasional cases caused by blowfly larvae (termed common maggots in this area).

Dr. F. A. Conover, New Berlin, Ill., reported that he had treated navels of two calves during the summer of 1934 for myiasis. The worms in these two cases fed in the wound similarly to the true screwworm (C. americana) rather than as the common blowfly maggots. These cases were near Roseville, Ill. (Warren County) during August of 1934. Neither Dr. Nighbert nor Dr. Conover collected any specimens to preserve.

If above cases were due to the true screwworm (C. americana) the theory is that there were other flies and worms present during 1934 and as the winter was unusually mild that the species successfully over-wintered in this climate to reinfest livestock during the summer of 1935.

This origin of infestation is possible, but not probable.

2.--The dust storms of the winter and spring of 1934-35 in Kansas, Texas, and Oklahoma blew flies or pupae of the true screwworm into this area.

~~///~~ This origin is hardly possible and certainly not probable.

3.--Migration of flies (C. americana) from the southwestern United States to this area during the present year (1935).

The infestation in Illinois evidently started on the east side of the Mississippi River and what few cases on the west side of the River in Missouri that have occurred were at a later date. The area south of Pike County, Illinois has only recently been infested with screwworms (about September 20, 1935) and no cases of screwworms have been reported to date in Southern Illinois, Kentucky, or southern Missouri. (This latter area has not been scouted, however)

4.--The shipment of livestock from Texas, Oklahoma, and southern Kansas is a possible and the most probable method of introduction of the screwworm (C. americana) and related species into Illinois. It is also a probable method of spreading the infestation locally.

A REPORT OF THE SCREWORM INFESTATION IN WESTERN ILLINOIS DURING THE SUMMER AND FALL OF 1935.

Possible Methods of Introduction:

There are four possible origins of the recent infestation in Pike County and adjoining counties:

1.--The presence of the flies (*Cochliomyia americana*) and related species during the late summer and fall of 1934 is indicated by reports of two veterinarians in this area. Dr. M. S. Nighbert, Pittsfield, Ill., reported having treated two cases of screwworms on September 8, 1934 in a horse suffering from fistula. The doctor said that the worms taken from this wound had formed round holes or pockets from feeding in healthy tissue of the animal beneath its skin. He has found maggots of blowflies in such wounds before, but these had fed on discharges from the fistula rather than in healthy tissue. This fact made Dr. Nighbert think that possibly the worms he found in the wound last year were screwworms (*C. americana*). He had no other cases of myiasis in livestock in 1934 and no cases in the preceding years of his practice, except occasional cases caused by blowfly larvae (termed common maggots in this area).

Dr. F. A. Conover, New Berlin, Ill., reported that he had treated navels of two calves during the summer of 1934 for myiasis. The worms in these two cases fed in the wound similarly to the true screwworm (*C. americana*) rather than as the common blowfly maggots. These cases were near Roseville, Ill. (Warren County) during August of 1934. Neither Dr. Nighbert nor Dr. Conover collected any specimens for preserve.

If above cases were due to the true screwworm (*C. americana*) the theory is that there were other flies and worm-present during 1934 and as the winter was unusually mild that the species successfully over-wintered in this climate to reinfect livestock during the summer of 1935.

This origin of infestation is possible, but not probable.

2.--The dust storms of the winter and spring of 1934-35 in Kansas, Texas, and Oklahoma blew flies or pupae of the true screwworm into this area.

3.--This origin is hardly possible and certainly not probable.

4.--Migration of flies (*C. americana*) from the southwestern United States to this area during the present year (1935).

The infestation in Illinois evidently started on the east side of the Mississippi River and what few cases on the west side of the River in Missouri that have occurred were at a later date. The area south of Pike County, Illinois has only recently been infested with screwworms (about September 20, 1935) and no cases of screwworms have been reported to date in Southern Illinois, Kentucky, or southern Missouri. (This latter area has not been scouted, however)

4.--The shipment of livestock from Texas, Oklahoma, and southern Kansas is a possible and the most probable method of introduction of the screwworm (*C. americana*) and related species into Illinois. It is also a probable method of spreading the infestation locally.

There are community sales of livestock held at 3 towns in western Illinois weekly. These sales are held at Barry (Pike County, Ill.; Woodson (Morgan County), Ill.; and Carrolton (Greene County), Ill. The cattle, sheep, and hogs are shipped in from Kansas City or directly from the Southwest. Buyers then take these animals to surrounding towns to local sales.

Also livestock owners ship cattle and sheep direct from Texas and other Southwestern states to their own farms.

Two screwworm infestations have apparently originated in the vicinities of Barry and Woodson. At Barry, as near as can be determined, a screwworm infestation began about August 1st or shortly thereafter. It spread mostly in an easterly and northerly direction rather than in a southerly or westerly direction.

Another infestation has been apparent to the north and east of Woodson, Ill. This infestation first made its appearance about July first or shortly before. There does not seem to be any connection between the two in findings to date.

Both infestations have spread a considerable distance and caused some losses of livestock.

Evidences that screwworms have been spread by this method.

Cattle and livestock buyers and traders will not give any information as to whether animals were infested with screwworms when held at sales as a rule. This is probably due to the fact that it might spoil sales of their livestock or cause quarantines to be initiated.

However, from livestock owners direct and from hearsay the following examples are given:

Webster Bros. of Pleasant Hill (Pike Co.) Ill., say they shipped 350 sheep from Sanderson, Texas to their farm at Pleasant Hill. The sheep arriving September 24. Four of the animals had advanced cases of myiasis upon their arrival in Illinois. Two of the animals died from the affects of the worms. The cases had been treated before observed by the writer, but the wounds were observed and a veterinarian had seen worms and treated cases. (Although these sheep were not the cause of the present infestation in Illinois, it shows how screwworms could be introduced).

Another farmer bought cattle at Barry Sale which had been shipped from Marfa, Texas. These cattle did not have screwworms when bought.

A livestock trader, A. Hill, of Beverly, Ill., said he bought hogs at Barry Sale infested with screwworms and shipped them to Bloomington Illinois to get rid of them.

A cattle trader in Pittsfield had cattle shipped from Texas that were infested with myiasis in their tails. He advertised these as Texas cattle.

A farm owner bought hogs at sale in Woodson, Ill., infested with screwworms and lost several.

A REPORT ON THE SCIENTIFIC INVESTIGATION IN WESTERN

There are community sales of livestock held at 3 towns in western Illinois weekly. These sales are held at Berry (Pike County, Ill.; Woodson (Morgan County, Ill.; and Carleton (Greene County, Ill. The cattle, sheep, and hogs are shipped in from Kansas City or directly from the Southwest. Buyers then take these animals to surrounding towns to local sales.

Also livestock owners ship cattle and sheep direct from Texas and other Southwestern states to their own farms.

1--The presence of the Texas (Southwestern) and related species of livestock have apparently originated in the vicinity of Berry and Woodson. At Berry, as near as can be determined, a sorcery-infestation began about August 1st or shortly thereafter. It spread mostly in an easterly and northerly direction rather than in a southerly or westerly direction. It has been reported that in early stages of the infestation, the animals were found to be infested in such a manner that the infestation has been apparent to the north and east of Woodson, Ill. This infestation first made its appearance about July 1st or shortly before. There does not seem to be any connection between the two infestations to date. It is noted that in the preceding years of his practice, except occasional cases caused by locally infested livestock (common negroes in this area).

Both infestations have spread a considerable distance and caused some losses of livestock. Mr. J. H. H. H., reported that he had treated navels of two calves during the summer of 1934 for myiasis. The worms in these two calves had been spread by this method. (The method of treatment is given in the report.)

Evidence that sorcery has been spread by this method is given in the report. Cattle and livestock buyers and traders will not give any information as to whether animals were infested with sorcery when held at sales as a rule. This is probably due to the fact that it might spoil sales of their livestock or cause quarantines to be initiated.

However, from livestock owners direct and from Hensley the following examples are given:

Webster Bros. of Pleasant Hill (Pike Co., Ill., say they shipped 350 sheep from Sanderson, Texas to their farm at Pleasant Hill, Ill. The sheep arriving September 24. Four of the animals had advanced cases of myiasis upon their arrival in Illinois. Two of the animals died from the effects of the worms. The cases had been treated before observed by the writer, but the wounds were observed and a veterinarian had seen worms and treated cases. (Although these sheep were not the cause of the present infestation in Illinois, it shows how sorcery could be introduced).

2--Another farmer bought cattle at Berry, Ill. which had been shipped from Marfa, Texas. These cattle did not have sorcery when bought.

A livestock trader, A. Hill, of Beverly, Ill., said he bought hogstags at Berry, Ill. infested with sorcery and shipped them to Bloomington, Ill. to get rid of them. (About September 30, 1935) and no more of sorcery have been reported in Illinois.

A cattle trader in Pittsfield had cattle shipped from Texas that were infested with myiasis in their tails. He advertised these as Texas cattle.

3--The shipment of livestock from Texas, Kansas, and southern Illinois to a farm owner bought hogs at sale in Woodson, Ill. infested with sorcery and lost several. It is also a probable method of spreading the infestation locally.

-3-
C O P Y

One owner bought a yearling at Barry Sale about August 15, 1935 infested with screwworms.

Spread of infestation to date in Illinois & Missouri.

Livestock have been found affected with myiasis by the writer, veterinarians, Farm Advisors, and owners in following Counties to date:

Illinois: Adams, Pike, Calhoun, Scott, Morgan, Sangamon, Brown, Cass, Menard and Greene. (It is possible that more counties than these have been in the infestation). Additional County is Fulton reported by Mr. Bigger, Assistant State Entomologist of Illinois. (Pencil note by F.C.B.: Also Macon Co., Schuyler Co., and Macoupin Co.)

Missouri: Marion County.

Number of Cases of myiasis in livestock:

It is impossible to get exact number of cases and losses of livestock. County agents say they have no way of finding out and it is impossible to make a house to house canvass. The figures given will represent a minimum of the number of cases rather than the maximum. From information rendered by druggists of calls for chloroform, benzol, and pine tar oil; veterinarians, County Agents, and personal contacts with livestock owners the following number of cases are given:

Pike County, Ill.: 2,000 cases in pigs, cattle, horses, sheep, and dogs.

Losses: At least 100 small pigs and calves and a few dogs and sheep. (Other animals are probably so injured that they will not survive the winter). Some of the owners may have more casualties in the fields and woods that they have not gone to look for or had up to the barn in some time.

Wounds caused by screwworms observed in head, body, mouth, udders of cows, sheathes of horses, castration wounds, vulva of female animals, leg wounds and almost on any part of animal where there was a scratch or abrasion or where the inner skin was exposed.

Scott County, Ill.: At least 200 cases in livestock.

Losses: Undetermined except one lamb.

Adams County, Ill.: At least 500 cases.

Losses: 50 young animals.

Morgan County, Ill.: 300 cases in livestock.

Losses: Undetermined.

Calhoun Co., Ill.: 25 cases in cattle and pigs.

Losses: Undetermined.

Sangamon County, Ill.: At least 2000 cases and probably more (Survey not complete).

Losses: Losses over 100.

It is impossible to get exact number of cases and losses of livestock. County agents say they have no way of finding out and it is impossible to make a house to house canvass. The figures given will represent a minimum of the number of cases rather than the maximum. From information rendered by druggists of calls for chloroform, benzol, and pine tar oil; veterinarians, County Agents, and personal contacts with livestock owners the following number of cases are given:

Remainder of counties infested number of cases not determined fully.

Marion County, Mo.: At least 30 cases determined to date.

Treatments Used by livestock owners and Veterinarians:

Unsuccessful treatments used were kerosene, turpentine, and carbolic acid.

Treatments used which were successful in killing worms, but caused injury to wounds and in some cases caused loss of eyes: Creosote dip, blue vitriol, gasoline, Eucarbol and iodine.

Successful killers without injury: Chloroform and Benzol. Some druggists recommended mixing small amounts of iodine with chloroform to aid as a disinfectant.

Repellents used were: Crude pine tar, oil of pine tar, iodoform, creosote dip, horn paint, gauze bandages, PYOKTANNIN Blue, grease, and lubricating oil.

Those that began using Benzol and pine tar oil expressed satisfaction at their results.

Conclusion until more information is available:

The infestation took everybody by surprise and even the veterinarians did not know what it was at first. There have never been screwworms in this area before and only occasional cases of maggots layed by Phormia regina and possibly species of Lucilia. Neither C. americana nor C. macellaria have been observed in the adult stage by veterinarians or livestock owners.

I have observed Cochliomyia americana, Phormia regina, Lucilia species, and Sarcophagids on and about wounds in this area. Cochliomyia species were never abundant about wounds unless animals treated were away from the barnyard. I have observed C. americana female flies deep in wounds and they would only leave wounds when violently disturbed.

On September 25 there was a light frost and there have been two frosts since then. None have been killing frosts. After the first frost one could observe large numbers of Cochliomyia species around livestock but they were not very active. By September 29 it had warmed up to some extent, and the flies became active and one could observe many blows (eggs) on edge and in wounds of livestock. Within the past three days the number of calls for veterinarians to treat screwworms has slackened and fewer owners report screwworm infestation.

Signed/ W. J. Spicer.

Remainder of counties infested number of cases not determined fully.

Marion County, Mo.: At least 30 cases determined to date.

Treatments Used by Livestock Owners and Veterinarians:

Unsuccessful treatments used were kerosene, turpentine, and carbolic acid.

Treatments used which were successful in killing worms, but caused injury to wounds and in some cases caused loss of eyes: Cresote dip, blue vitriol, gasoline, kerosene, and iodine.

Successful killers without injury: Chloroform and Benzol. Some druggists recommended mixing small amounts of iodine with chloroform to aid as a disinfectant.

Repellents used were: Grube pine tar, oil of pine tar, kerosene, cresote dip, kerosene, kerosene, PYOKTANNIN Blue, grease, and India eating oil.

Those that began using Benzol and pine tar all expressed satisfaction at their results.

Conclusion until more information is available: the following number of

The infestation took everybody by surprise and even the veterinarians did not know what it was at first. There have never been any worms in this area before and only occasional cases of maggots laid by *Phormia regina* and possibly species of *Lucilia*. Neither *C. americana* nor *C. macellaria* have been observed in the adult stage by veterinarians or livestock owners.

I have observed *Cochliomyia americana*, *Phormia regina*, *Lucilia species* and *Sarcophagids* on and about wounds in this area. *Cochliomyia species* were never abundant about wounds unless animals treated were away from the barnyard. I have observed *C. americana* flies deep in wounds and they would only leave wounds when violently disturbed.

On September 25 there was a light frost and there have been two frosts since then. None have been killing frosts. After the first frost one could observe large numbers of *Cochliomyia species* around livestock but they were not very active. By September 29 it had warmed up to some extent and the flies became active and one could observe many blow (eggs) on edge and in wounds of livestock. Within the past three days the number of calls for veterinarians to treat sorewounds has slackened and fewer owners report sorewound infestation.

Signed W. J. Spitzer.